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Notable range extension of *Chinchillula sahamae* Thomas, 1898 (Rodentia, Sigmodontinae) to central Peru, with natural history notes

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Abstract. *Chinchillula sahamae* Thomas, 1898 is a sigmodontine rat, known to occur in southern Peru, northern Chile, and western Bolivia. In this study, we report new records of the species in the departments of Huancavelica and Junín, Peru, which extend this species' known distribution 370 km northwest, and new records in the department of Tacna, which extend the upper elevational range of the species to 5100 m, 250 m higher than previously known. In addition, we include notes on natural history, especially nesting behaviour, based on direct observations.

Keywords. Andes, Huancavelica, Junín, Reserva Paisajística Nor Yauyos–Cochas, small mammals

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Introduction

Chinchillula sahamae Thomas, 1898, Sajama's Chinchilla Rat, is currently known from fewer than 20 localities in the Puna region of southern Peru, northern Chile, and western Bolivia at elevations between 3,500 and 4800 m (Mann 1945; Pearson 1951; Anderson 1997; Salazar-Bravo 2015; Pardiñas et al. 2017). In Peru, this species has been reported only in Apurímac, Arequipa, Ayacucho, Cusco, Puno, and Tacna departments (Sanborn 1950; Pearson 1951; Dorst 1971; Salazar-Bravo 2015); in Bolivia, in La Paz and Oruro; and Chile in Arica and Parinacota (Mann 1945; Anderson 1997).

Chinchillula sahamae is a large rodent with a unique, striking color pattern unlike any other South American rodent. It is distinguished by black, white, and brown stripes (Pearson 1951; Anderson 1997), with a short, usually bicolored tail, and relatively large ears. The skull is unique and resembles *Andinomys* Thomas, 1902 in some characters (Hershkovitz 1962). More information on skull, teeth, and soft anatomy has been published by Hershkovitz (1962), Steppan (1995), and Salazar-Bravo (2015).

Currently, there is little information about the distribution, natural history, ecology, reproductive biology, or behavior of this species (Salazar-Bravo 2015), because it lives at high-elevation and difficult to access places (Diaz and Barquez 2007), inhabiting rocky places

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or patches of *Polylepis* Ruiz & Pav. (Rosaceae) (Pearson 1951; Dorst 1971; Anderson 1997; Zeballos and Carrera 2010; Salazar-Bravo 2015). Some information on the growth and development of juvenile individuals, as well as reproductive aspects, is known from captive individuals (Aliaga-Rossel et al. 2009). The reproductive season of *C. sahamae* in Peru was suggested by Dorst (1971) to start in November. In addition, this species is herbivorous, has crepuscular and nocturnal activity (Pearson 1951; Dorst 1971), and is known to be preyed upon by Puma, *Puma concolor* (Linnaeus, 1771) (Pacheco et al. 2004).

Here, we present several new records of *C. sahamae* from Peru, based on field observations and a revision of specimens housed in the Museo de Historia Natural de la Universidad Nacional Mayor de San Marcos. These records extend the known distribution of the species northwest and to higher elevation than previously known.

Methods

We examined 17 specimens of *Chinchillula sahamae* housed in the mammal collection of the Museo de Historia Natural de la Universidad Nacional Mayor de San Marcos, Lima, Peru (MUSM) and followed Salazar-Bravo (2015) for taxonomic identification. In addition, we mapped these and other occurrence data from other museums, including the American Museum of Natural History, New York (AMNH); Colección Boliviana de Fauna, La Paz (CBF); Field Museum of Natural History, Chicago (FMNH); Louisiana State University Museum of Zoology, Baton Rouge (LSUMZ); Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", Buenos Aires (MACN); Museum of Comparative Zoology at Harvard University, Massachusetts (MCZ); Muséum national d'Histoire naturelle, Paris (MNHN); Museum of Southwestern Biology, Albuquerque (MSB); Museo de Historia Natural de la Universidad Nacional de San Agustín, Arequipa (MUSA); Museum of Vertebrate Zoology, Berkeley (MVZ); Natural History Museum, London (NHMUK); and the Smithsonian National Museum of Natural History, Washington DC (USNM); these data are available in GBIF (https://www.gbif.org/), VertNet (http://www.vertnet.org/), and Arctos (https://arctos.database.museum/). Because the pelage pattern of this species is unique (confirmed in this study), the identification of those specimens is unlikely wrong, although a direct inspection of the specimens is suggested. Records from Sanborn (1950), Pearson (1951), Dorst (1971), Yesen and Tarifa (1993), Anderson (1997), Zeballos and Carrera (2010), Carrizo and Diaz (2013), Salazar-Bravo (2015), and Maldonado and Pino (2022) were also included.

Results

We report 17 new confirmed localities of *Chinchillula sahamae* for Peru (Table 1). This includes the first record of *C. sahamae* for the Junín department, in the Reserva Paisajística Nor Yauyos– Cochas, Canchayllo district, Jauja province, near to the border with Lima department (Fig. 1). This report is based on a direct observation (photographed, but without vouchers) by one of the authors (AQ), who observed two specimens on 21 October 2015 (Fig. 2A). A specimen (Fig. 2B) collected by RC in the Área de Conservación Regional Vilacota Maure, Kallapuma, province of Tarata, department of Tacna, at 5,100 m (MUSM 52005), is the highest known record for the species (Fig. 3); another specimen from a high elevation was collected by J. Ortiz de la Puente at 5,000 m from Quilviri, province of Azángaro, department of Puno (MUSM 2319) on 20 March 1947. Measurements taken from labels indicate that they fit within the morphological variation of *C. sahamae* (Appendix). In addition, a broad comparison reveals no apparent sexual dimorphism in the species.

Chinchillula sahamae Thomas, 1898

New records. PERU – Huancavelica department • Huancavelica province, Huando district, Pueblo Libre; –12.7122, –075.0976; 4540 m alt.; 19.VIII.2011; Edith Salas leg.; 1 subadult ♀, skin, MUSM 39644 • Huancavelica province, Ascensión district; –12.7494, –075.0630; 4544 m alt.; 19.X.2018; Giancarlo Velezvilla leg.; 1 ♀, fluid-preserved in alcohol, MUSM 56199 – Junín department • Jauja province, Canchayllo district, Reserva Paisajística Nor Yauyos – Cochas; –11.9763, –075.9556; 4817 m alt; 24.X.2015; Alan Quispe obs.; 2 individuals, sex undetermined.

Other material examined. PERU – Cusco department • Canchis province, Pitumarca district, Laguna Sibinacocha; –13.8465, –071.0572; 4850 m alt.; 16.VII.2000; Victor Pacheco leg.; 1 ♀, skin, MUSM 17491 • Canchis province, Marangani district, Quenamari; –14.3012, –070.9093; 4600 m alt.; 15.VIII.2012; L. Goméz leg.; 1♀, fluid-preserved in alcohol, MUSM 42314 • Chumbivilcas province, Llusco district, El Crespo; –14.8011, –072.3869; 4930 m alt.; 15.VIII.2011; Natali Hurtado leg.; 1♀, fluid-preserved in alcohol, MUSM 37739 • Chumbivilcas province, Livitaca district, Cerro Sacsa Orcco; –14.4441, –71.8015; 4188 m alt.; 16.IV.2013; Edith Salas leg.; 1 ♀, skin, MUSM 42087 – Arequipa department • Caylloma province, Chivay district, Chalhuanca; –15.7146, –071.4064; 4477 m alt.; 22.IV.2009; Alexander Pari leg.; 1 ♀, skin, MUSM 53463 • Caylloma province, Chivay district, Huañapalca; –15.7083, –071.3956; 4349 m alt.; 21.IV.2009; Alexander Pari leg.; 1 ♀, skin, MUSM 53464 – Moquegua department • Mariscal Nieto province, Carumas district, Huachunta; –16.6441, –070.3617; 4384 m alt.; Ericka Paliza leg.; 1 juvenile ♀, skin, MUSM 22590 • General Sánchez Cerro Omate province, Ichuña district, Chucapaca; –16.2070, –070.5764; 4876 m alt.; 27.VIII.2011; Carlos Tello leg.; 1 adult ♀, skin, MUSM 37287 – Puno department • Azángaro province, Azángaro; –14.9249, –070.1746; 5000 m alt.; 22.III.1947; Javier Ortiz de la Puente leg.; 1 ♂, skin, MUSM 2319 • Carabaya province, Corani district; Jorge Chavez;

Table 1. Records of selected localities available for *Chinchillula sahamae* in Bolivia, Chile, and Peru. Morphometric information for the MUSM vouchers that represent the new records is in the Appendix Table A1.

No.	Locality	Latitude	Longitude	Altitude (m)	Voucher	Reference
1	Peru: Junín; Canchayllo; Reserva Pasajística Nor Yauyos–Cochas	−11.9763	−075.9556	4817	Only photographs	This study[1]
2	Peru: Huancavelica; Huando, Pueblo libre	−12.7122	−075.0976	4540	MUSM 39644	This study[2]
3	Peru: Huancavelica; Asensión	−12.7494	−075.0630	4544	MUSM 56199	This study[2]
4	Peru: Ayacucho; 21 mi ENE Puquio	−14.5837	−073.8451	4419	MVZ 116035	Salazar-Bravo 2015
5	Peru: Apurímac; 25 mi SW Chalhuanca	−14.6000	−073.4167	4420	MVZ 116034	Salazar-Bravo 2015
6	Peru: Cusco; El Crespo	−14.8011	−072.3869	4868	MUSM 37739	This study
7	Peru: Cusco; Cerro Sacsa Orcco	−14.4441	−071.8015	4188	MUSM 42087	This study
8	Peru: Cusco; Cordillera de Sicuani	−14.2666	−071.2167	3554	FMNH 83475	Hershkovitz 1962
9	Peru: Cusco; Laguna Sibinacocha	−13.8465	−071.0572	4850	MUSM 17491	This study
10	Peru: Puno; Carabaya, Jorge Chávez	−14.1109	−070.6802	4921	MUSM 39772	This study
11	Peru: Cusco; Quenamari	−14.3012	−070.9093	4600	MUSM 42314	This study
12	Peru: Puno; Azángaro, Puerto Arturo	−14.3333	−070.2500	4191	FMNH 53156	Sanborn 1950
13	Peru: Puno; 36 km SE (by road) Macusani	−14.2931	−070.2374	4080	MVZ 172675	Salazar-Bravo 2015
14	Peru: Puno; 13 mi ENE Crucero, Abra Aricoma	−14.2780	−069.8218	4572	MVZ 139582	—
15	Peru: Puno; 5 mi SSW Limbani	−14.2145	−069.7172	4206	MVZ 116183	Salazar-Bravo 2015
16	Peru: Puno; Carabaya, Hacienda Picotani	−14.5610	−069.8016	4390	FMNH 52477	Sanborn 1950
17	Peru: Puno; 11 km W and 12 km S Ananea	−14.5915	−069.6521	4200	MVZ 172677	Salazar-Bravo 2015
18	Bolivia: La Paz; Franz Tamayo, Ulla Ulla	−14.8666	−069.2666	—	CBF 3266	Carrizo & Diaz 2013
19	Bolivia: La Paz; Franz Tamayo, 7 kilometers east of Ulla Ulla	−15.0500	−069.2000	4560	AMNH 247885	Anderson 1997
20	Bolivia: La Paz; Franz Tamaño, Estación Ulla Ulla	−15.0500	−069.2666	—	MSB 75253	Anderson 1997
21	Peru: Puno; Hacienda Checayani, 20 km NE Azangaro	−14.8166	−070.0166	4064	MNHN MO-1957-1280	Dorst 1971
22	Peru: Puno; Azángaro, Quilviri	−14.9249	−070.1746	5000	MUSM 2319	This study
23	Peru: Puno; Sandía, Andenes de Cuyocuyo	−14.8333	−070.2500	3940	photographs	Maldonado & Pino 2022
24	Peru: Puno; Hacienda Posoconi, 3 mi W Asillo	−14.7666	−070.4333	4115	FMNH 51254	Sanborn 1950
25	Peru: Arequipa; Caylloma, Cailloma	−15.1999	−071.7667	4420	FMNH 49406	Sanborn 1950
26	Peru: Arequipa; San Ignacio	−15.2083	−071.7944	—	MCZ 39358	Pearson 1951
27	Peru: Arequipa; Caylloma, Chivay, Chalhuanca	−15.7146	−071.4064	4477	MUSM 53463	This study
28	Peru: Arequipa; Reserva Nacional Salinas y Aguada Blanca	−15.7614	−071.5536	4700	—	Zeballos & Carrera 2010
29	Peru: Arequipa; Sumbay	−15.9666	−071.3833	4115	FMNH 49401	Sanborn 1950
30	Peru: Arequipa; ca. 43 km (by road) E Arequipa	−16.1970	−071.1970	—	LSUMZ 27890	—
31	Peru: Moquegua; Huaylarco, 52-55 mi ENE Arequipa	−16.0333	−070.8333	4572	MVZ 116181	—
32	Peru: Puno; 82 km W Puno	−15.8333	−070.7988	4267	MVZ 115940	—
33	Peru: Moquegua; General Sánchez Cerro Omate, Ichuña, Chucapaca	−16.2074	−070.5734	4876	MUSM 37287	This study
34	Peru: Puno; Hacienda Collacachi	−15.9500	−069.9833	3962	FMNH 49413	Sanborn 1950
35	Peru: Puno; Hacienda Payrumani	−16.0833	−069.6667	3962	—	Pearson 1951
36	Bolivia: La Paz; Pedro Domingo Murillo, Nuestra Señora de La Paz	−16.5000	−068.1500	—	MACN 53-33.	Anderson 1997
37	Peru: Moquegua; Carumas, Huachunta	−16.6441	−070.3617	4384	MUSM 22590	This study
38	Peru: Puno; Caccachara, west of Ilave	−16.7750	−070.0275	4876	MCZ 42835	Pearson 1951
39	Peru: Tacna; Candarave, 5 km E Lago Suche	−16.9333	−070.3363	4450	MVZ 115939	Salazar-Bravo 2015
40	Peru: Puno; Santa Rosa, Vilacota	−17.1208	−070.0213	4457	MUSM 52918	This study
41	Peru: Tacna; Tarata, Vilacota	−17.1221	−070.0634	4590	MUSM 52006	This study
42	Peru: Tacna; Tarata, Kovire	−17.1992	−069.9399	4258	MUSM 51837	This study
43	Peru: Tacna; Candarave, Livine, 21 mi NE Tarata	−17.2519	−069.8096	4663	MVZ 114746	—
44	Peru: Tacna; Tarata, Kallapuma	−17.4251	−069.8054	5100	MUSM 52005	This study
45	Peru: Tacna; Tarata, Mamaraya	−17.3623	−069.9634	4243	MUSM 51839	This study
46	Peru: Tacna; Tarata, 2.6 mi N Tarata (23 km by road from Tarata)	−17.4368	−070.0327	3962	MVZ 139484	Salazar-Bravo 2015
47	Bolivia: Bolivia; La Paz, Esperanza	−17.8166	−068.7833	4200	NHMUK 1898.3.16.6	Thomas 1898
48	Bolivia: Oruro; Sajama	−18.1333	−068.9500	4200	—	Anderson 1997
49	Chile: Arica; Parinacota	−18.2000	−069.2667	—	USNM 391816	Mann 1945

[1] This represents the first record for Junín Department.
[2] These specimens are new records for Huancavelica Department.

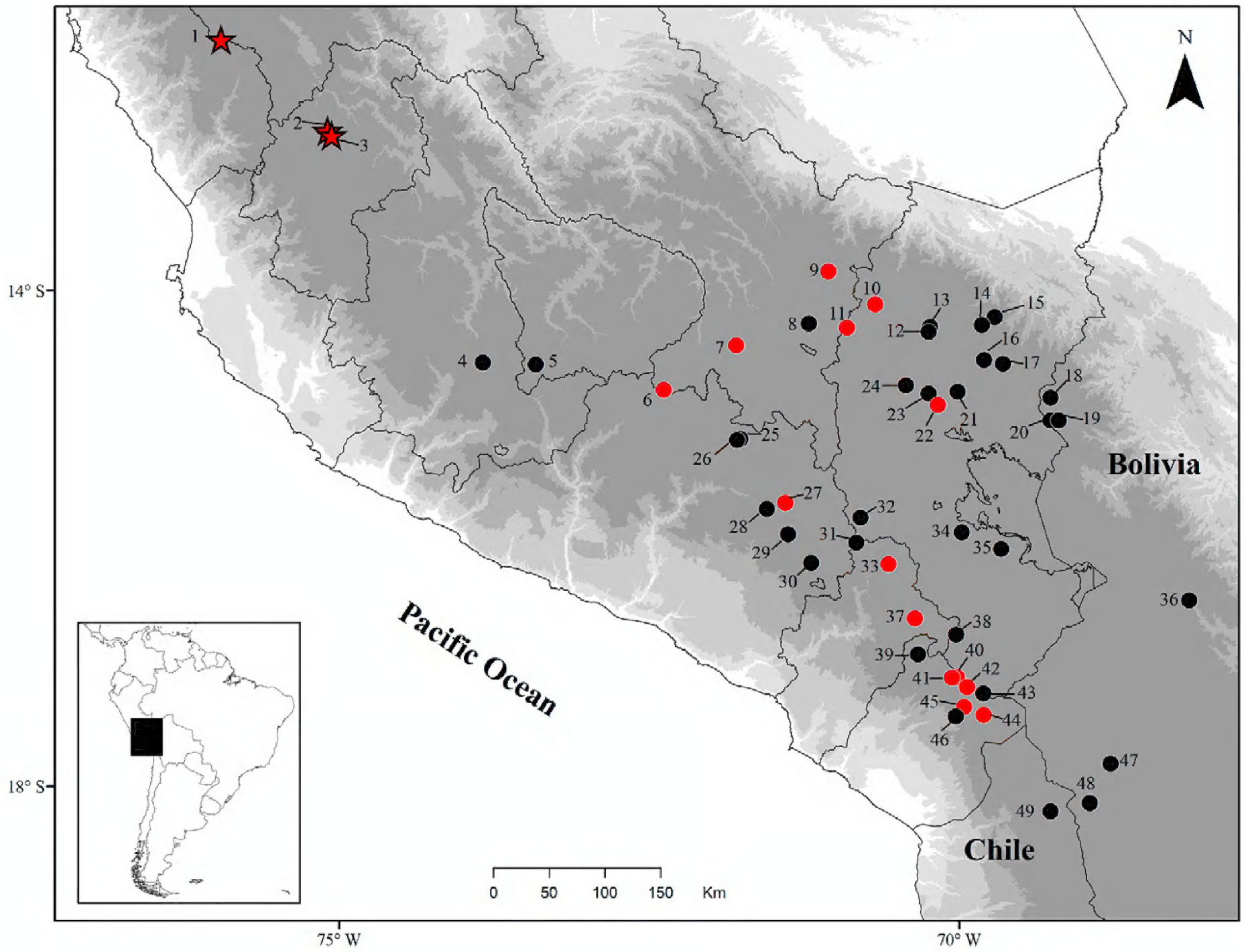

Figure 1. Distribution map of *Chinchillula sahamae*. Red stars represent new records for Junín and Huancavelica departments, Peru. Black circles represent known records and red circles represent new records based on MUSM specimens. For additional details see Table 1.

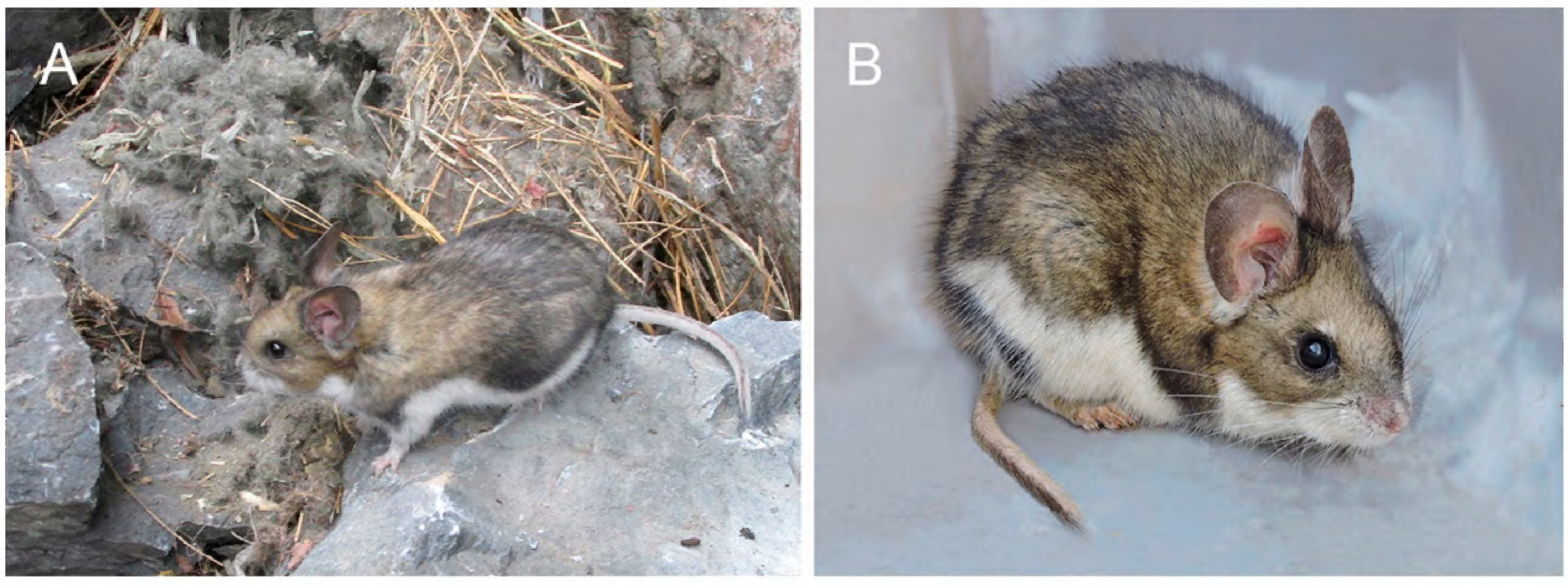

Figure 2. New records of *Chinchillula sahamae* in Peru. **A.** Specimen from Reserva Paisajística Nor Yauyos–Cochas, Junín, placed at the border of its nest. **B.** Specimen from Área de Conservación Regional Vilacota Maure, Tacna, at 4260 m elevation (MUSM 51837).

–14.1109, –070.6802; 4921 m alt.; 01.IV.2012; P Bueno leg.; 1 adult ♀, fluid–preserved in alcohol, MUSM 39772 • El Collao province, Santa Rosa district, Vilacota; –17.1208, –070.0213; 4457 m alt.; 28.I.2021; A. Pino and C. Ruelas leg.; 1 adult ♂, fluid–preserved in alcohol, MUSM 52918 – **Tacna department** • Tarata province, Ticaco district, Kovire; –17.1992, –069.9399; 4258 m alt.; 21.X.2017; Raisa Cairampoma leg.; 1 adult ♀, MUSM 51837 • Tarata province, Ticaco district, Mamaraya; –17.3623, –069.9634; 4243 m alt.; 30.X.2017; Raisa Cairampoma leg.; 1 juvenile ♂, MUSM 51839 • Tarata province, Tarata district, Kallapuma; –17.4251, –069.8054; 5100 m alt.; 23.XI.2019; R. Cairampoma leg.; 1 adult ♀, MUSM 52005 • Tarata province, Susapaya district, Vilacota; –17.1221, –070.0634; 4590 m alt.; 10.XI.2019; R. Cairampoma leg.; 1 adult ♀, MUSM 52006.

Figure 3. Rocky habitat for *Chinchillula sahamae* at Puna, Área de Conservación Regional Vilacota Maure in Kallapuma, Tacna.

Identification. *Chinchillula sahamae* is a medium-sized rodent, with a stout body (total length ranging from 233 to 290 mm; this work). The tail is short and well-haired (between 30% and 45% of the total length, ranging between 85 and 114 mm in Peruvian populations; Pearson 1951; Anderson 1997; this work), usually bicolored, with a mid-dorsal brown and white ventral hair, terminating in a short pencil. The pelage is long, very dense, silky, and remarkably colored grayish to brownish, washed with black over the back, lateral sides and venter are white. The hips and rump are also white with a conspicuous black band. The dorsal hairs have three band colors, a large plumbeous base, followed by a pale band, and a terminal band of blackish hairs. On the lateral sides and venter, the hairs are bicolored, the base is plumbeous, and the terminal hairs are white. The ears are large, mostly naked, and brown with a distinct white preauricular and postauricular patch. The dorsal surface of the foot is white, and the plantar surface is smooth, bare, pale, and with large pads. Ungual tufts are long, almost concealing the claws; also, a dense tuft of silvery hairs is present at both sides of the plantar foot and digits. The mammary count is eight, with two pairs in both axillary and inguinal positions.

Natural history. Two adult specimens of *C. sahamae* (likely male and female) were observed in the Reserva Paisajística Nor Yauyos–Cochas in October 2015 (at the start of the rainy season) building a nest on the ground, among boulders, using their own hair as nest material (Fig. 2A; Supplemental file, Video S1). Another specimen was observed in the same place during the day running in a rocky place. Several of the captured specimens were in rocky places, surrounded by grasses and shrubs. In Moquegua, some specimens were collected with snap traps placed at the border of a hole on the ground, near rocks; apparently this hole was made by the rodent. In Tacna, juveniles and not pregnant females were captured in October (dry season). We found also that females have been captured in a higher proportion than males according to recent field expeditions in Tacna (80%) and MUSM database (76%).

In the Reserva Paisajística Nor Yauyos–Cochas, *C. sahamae* co-occurs with *Akodon juninensis* Myers, Patton & Smith, 1990, *A. subfuscus* Osgood, 1944, *Phyllotis magister* Thomas, 1912, *P. occidens* Rengifo & Pacheco, 2015, *Calomys lepidus* (Thomas, 1884), *C. sorellus* (Thomas, 1900), and *Oligoryzomys arenalis* (Thomas, 1913) (Giancarlo Velezvilla, com. pers.); whereas at Vilacota Maure, *C. sahamae* co-occurs with *Abrothrix andina* (Philippi, 1858), *Abrothrix jelskii* (Thomas, 1894), *Akodon albiventer* Thomas, 1897, *Akodon boliviensis* Meyen, 1833, *Auliscomys sublimis* (Thomas, 1900), *Calomys lepidus*, *Lagidium viscacia* (G.I. Molina, 1782), and *Phyllotis xanthopygus rupestris* (Gervais, 1841).

Discussion

The new record of *Chinchillula sahamae* from Nor Yauyos–Cochas, Junín department, extends the distributional range of the species by 370 km northwest. In Peru, the species was known from Apurímac, Arequipa, Ayacucho, Cusco, Puno, and Tacna departments (Sanborn 1950; Pearson 1951; Dorst 1971; Zeballos et al. 2001; Salazar-Bravo 2015). This record is just 1 km from the border with the department of Lima, suggesting that *C. sahamae* is very likely present in that department. Our study also includes the first records of this species from the department of Huancavelica, which come from localities surveyed for the first time or poorly sampled in the past. The Junín record was possible due to the long and continuous monitoring by the protected area's guards, which allowed AQ to find the nest and capture photographs and videos.

In this paper, we also extend the upper elevation range of *C. sahamae* to 5100 m in Kallapuma, department of Tacna. This is approximately 250 m higher than previously reported in Puno by Pearson (1951). In addition, the presence of *C. sahamae* in rocky places may indicate a close association with this habitat. Other studies also reported the presence of this species in this type of habitat, having tola, yareta, grass and *Polylepis* patches (Pearson 1951; Dorst 1971). Such rocky places are known to provide protection from predators and from the harsh environment (Mares 1997; Beninato et al. 2019). Our observations of co-occurring species are consistent with other studies in southern Peru and western Bolivia (Pearson 1951; Dorst 1971; Yensen and Tarifa 1993).

The reproductive season in *C. sahamae* is unknown, although Dorst (1971) suggested that it is during the wet season. Our data and other reports concur with his hypothesis: three individuals captured by us in October 2017 (dry season) in Tacna department were juveniles, and Pearson (1951) reported non-pregnant females in October (dry season) in Puno department. Whereas another study in Puno reported that most individuals captured in November (wet season) had active reproductive characteristics, such as developed testicles in males and pregnant or lactating females (Dorst 1971), and there is also a report of a pregnant female captured

in January (wet season) in Bolivia (Aliaga-Rossel et al. 2009). However, apparently not all species of Andean sigmodontine rodents have a reproductive season. Pearson (1951) reported that *Akodon boliviensis*, *Abrothrix andina*, *Abrothrix jeslkii*, *Andinomys edax* Thomas, 1902, *Calomys lepidus*, *Phyllotis osilae* J. A. Allen, 1901, and *Neotomys ebriosus* Thomas, 1894 were found in state of reproduction in the wet season, whereas others, like *Phyllotis xanthopygus* (Waterhouse, 1837), *Auliscomys boliviensis*, *Auliscomys sublimis*, and *Auliscomys pictus* (Thomas, 1884), showed evidence of reproduction in both the wet and dry seasons. Pacheco and Patton (1995) found that *Punomys lemminus* Osgood, 1943 showed evidence of reproduction in the wet season and *P. kofordi* Pacheco & Patton, 1995 in the dry season.

The constructed nest reported here for *C. sahamae* suggests some social interaction and a breeding strategy. Nest construction has been recently documented in sigmodontine rodents, but little is known about nesting behavior (Ribble and Salvioni 1990). The lack of external sexual dimorphism in *C. sahamae* is an impediment to know if the individuals seen in the nest were male or female. However, we can report that *C. sahamae* builds nests on the ground, that newborns are likely altricial as is other sigmodontine rodents (Carleton and Musser 1984; Nowak 1999), and that the female or the male (or both) are taking care of the young. Some studies in *Calomys musculinus* (Thomas, 1913) and *C. laucha* (G. Fisher, 1814) have suggested that males have a role on pup survival and growth (Laconi 2000) and that may occur also in *C. sahamae*. We also note that *C. sahamae* uses hair as nest material, like *Oligoryzomys* sp. in Argentina (Udrizar Sauthier et al. 2010), but differing from other sigmodontine rodents which build nests using mainly plant material. For instance, *Phyllotis haggardi* and *Akodon mollis* uses the bushgrass *Calamagrostis intermedia* (Villarreal et al. 2022), *Scolomys melanops* the palm *Lepidocaryum tenue* (Rengifo and Aquino 2012), *Thomasomys aureus* small branches of the shrub *Miconia salicifolia*, *C. intermedia*, pieces of bark of *Polylepis incana*, and mosses. *Thomasomys paramorum* uses *C. intermedia*, subshrubs *Espeletia pycnophyllia*, and pieces of bark of *P. incana* (Brito et al. 2012).

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Author Contributions

Conceptualization: VP. Data curation: VP, RC. Formal analysis: VP. Funding acquisition: VP, RC. Methodology: RC. Resources: RC. AQ, GV, AV. Visualization: AQ, RC. Writing - original draft: VP, RC. Writing - review and editing: VP, RC, AQ, GV, AV.

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Supplemental Data

Video S1. Video of a living specimen of *Chinchillula sahamae* (MUSM2 074) guarding its nest (Reserva Paisajística Nor Yauyos–Cochas, Junín). https://checklist.pensoft.net/getfile.php?file_id=792435

Appendix

Table A1. External measurements (in mm) and the weight (in g) of the holotype of *Chinchillula sahamae* (Thomas 1898) and the 17 new records (specimens of the MUSM collection). Pearson's (1951) data are included for comparison.

Source	Sex	Age	TotalL	TailL	HFL	Ear	Weight	Locality
NHMUK 1898.3.16.6	Male	Juvenile	122	59	28	23	—	Bolivia, La Paz
Pearson 1951	Male	Adult	(247–275)	(97–109)	(31–33)	(33–36)	—	Peru, Puno
Pearson 1951	Female	Adult	(248, 251)	(95, 99)	(33, 32)	(34, 36)	—	Peru, Puno
MUSM 17491	Female	Adult	285	110	34	40	133	Peru, Cusco
MUSM 42087	Female	Adult	284	113	35	39	140	Peru, Cusco
MUSM 42314	Female	Adult	[254]	100	34	32	—	Peru, Cusco
MUSM 39772	Female	Adult	273	106	34	36	—	Peru, Puno
MUSM 51837	Female	Adult	258	104	34	32	120	Peru, Tacna
MUSM 52005	Female	Adult	261	106	33	32	107	Peru, Tacna
MUSM 52006	Female	Adult	274	106	33	31	115	Peru, Tacna
MUSM 22590	Female	Juvenile	256	108	34	34	—	Peru, Moquegua
MUSM 37739	Female	Juvenile	233	98	34	33	95	Peru, Cusco
MUSM 51839	Male	Juvenile	226	64	25	31	100	Peru, Tacna
MUSM 52918	Male	Juvenile	245	94	35	32	98	Peru, Puno
MUSM 56199	Female	Juvenile	—	110	35	34	—	Peru, Huancavelica
MUSM 53463	Female	Juvenile	204	83	31	26	52	Peru, Arequipa
MUSM 53464	Female	Juvenile	180	80	26	26	29	Peru, Arequipa

Source	Sex	Age	TotalL	TailL	HFL	Ear	Weight	Locality
MUSM 37287	Female	—	243	97	35	37	81	Peru, Moquegua
MUSM 39644	Female	—	228	85	33	30	66	Peru, Huancavelica
MUSM 2319	Male	—	—	—	—	—	—	Peru, Puno